

# **The 2004 Trail Activities in Nevada Study**



**Nevada Division of State Parks  
Planning and Development Section**

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# **The 2004 Trail Activities in Nevada Study**

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By

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## EXECUTIVE SUMMARY

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The Trail Activities in Nevada survey conducted by Nevada Division of State Parks found that:

- 61.3 % of Nevada residents participated in a recreational trail activity in the twelve (12) months preceding the questionnaire
- Walking is the most popular trail activity, with 55% of Nevadans participating in the past twelve (12) months, and 41.5% expecting to participate in the future
- Trail users spend an average of 20.5 days on the trails per year
- The average party size for trail users was 4.2 people per outing
- Trail users travel an average of 10.7 miles per day
  - Non-motorized trail users travel an average of 6.68 miles per day
  - Motorized trail users travel an average of 30.02 miles per day
- There are 388,209 OHVs, ATVs, snowmobiles and dirt bikes in Nevada
- The number one limiting factor for participation in trail activities is lack of time
- 6.9% of respondents belong to a trail or riding club or trail related organization
- The main source of information about trails in Nevada is word of mouth

## INTRODUCTION

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The Trail Activities in Nevada citizen survey was conducted to build a better understanding of who uses the trails in Nevada, how the trails are used and the opinions of Nevada citizens regarding trail activity issues. Knowing the amount and type of trail activity participation in Nevada allows planners and decision makers to base recommendations and decisions on quantitative information. Results of this study will be used as one source of input into the development of a statewide trails plan. Data in this report can also prove useful to outdoor recreation providers and professionals in both the public and private sector.

### **Data Collection/Survey Methods**

To determine how Nevadans participate in trail related activities and their opinions on trail related issues, the Nevada Division of State Parks conducted a statewide mail survey titled Trail Activities in Nevada. The survey population consisted of Nevada's driver's license holders.

The survey, initiated in September 2003, followed mail survey techniques outlined in Don Dillman's book titled Mail Survey and Internet Surveys-The Tailored Design Method. Five (5) mailings were conducted to obtain the maximize response rate. After the pre-notice letter, subsequent mailings were reduced by the number of non-deliverables and responses.

A sample of 1,250 names was chosen randomly from the list of the 1,578,171 persons in Nevada holding a current Nevada Driver's license. Since the minimum age for persons in Nevada to hold a driver's license is sixteen (16) years, persons 16 years of age and older comprised the sampling frame. The sample pool also excluded those that did not possess a Nevada driver's license. Nevada's Department of Motor Vehicles (DMV) drew the sample. DMV was instructed to draw the first person, 'n<sub>1</sub>', randomly and then draw the remainder of the sample by pulling every 'n<sup>th</sup>' person.

The sample pool files were compared to the United States Postal Service (USPS) master-addressing file to validate and correct street number, street names and 5-digit zip codes. The files were also compared to the USPS master file of individuals and families that have moved in the 36-months previous to the first survey mailing. Seventy (70), or 5.6% of the addresses were found to be incorrect and were removed. The remaining 1,180 names and addresses comprised the sample pool for this study.

Of the 1,180 questionnaires mailed initially, 118, or 10%, were returned undeliverable to produce a net sample size of 1,062. Five hundred one (501) persons returned completed questionnaires for a response rate of 47.18%.

Recipients of the survey not wishing to complete the questionnaire were asked to return the questionnaire blank. Sixty-nine (69) respondents, or 5.85 %, elected this option. Thus, 570, or 53.67% did respond to the questionnaire. It was decided though, to treat respondents who returned blank questionnaires as non-respondents to calculate the valid response rate.

The survey examined the rates of participation for sixteen (16) trail activities: walking for pleasure or exercise, hiking, Off Highway Vehicle (OHV) riding, jogging, touring/regular biking, All Terrain Vehicle (ATV) riding, mountain biking, horseback riding, rafting, backpacking, dirt bike riding, kayaking, canoeing, snowshoeing, cross-country skiing and snowmobile riding. Respondents were asked to indicate if they had participated in these activities within the last twelve (12) months, including information about their last outing, their attitudes toward trail activity issues, and background information.

This report summarizes the data collected in the study.



## RESULTS

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### *Who, and how many Nevada citizens participate in trail activities?*

Table 1 shows the percent of Nevada citizens who reported participation in a trail activity within the twelve (12) months previous to the mail questionnaire. Over 61% (967,419) of Nevada citizens participated in a trail activity, compared to almost 39% (610,752) that did not participate in a trail activity.

*Table 1. Percent of Nevada citizens that participated in a trail activity within the twelve months preceding questionnaire*

	<b>PERCENT</b>	<b>NUMBER OF RESIDENTS</b>
Trail user	61.3	967,419
Non-user	38.7	610,752
<i>TOTAL</i>	<i>100</i>	<i>1,578,171</i>

Table 2 shows the percent of trail users who reported participation in the selected trail activities within the twelve (12) months previous to the mail questionnaire. Survey respondents reported participation in walking for pleasure or exercise more than any other trail activity. Over 55% (534,983) participated in this activity at least once in the past twelve (12) months. The second most popular trail activity is hiking, with 36.5% (353,108) participating. Almost 19% (181,875) went OHV riding, and 15.6% (150,917) went jogging or running and the same amount, 15.6% (150,917), rode a touring or regular bicycle.

Table 3 presents the percent of male and female respondents who participated in each trail activity. With the exception of a few activities, trail users were split almost equally between males and females. The trail activities with a larger proportion of females participating include

horseback riding and snowmobile riding. The trail activities with a larger percentage of males participating are jogging, mountain bike riding, rafting, backpacking, kayaking, canoeing, snowshoeing and cross country skiing.

*Table 2. Percent of trail users who indicated participation in trail activity in twelve months preceding questionnaire*

<b>TRAIL ACTIVITY</b>	<b>PERCENT</b>	<b>NUMBER OF PARTICIPANTS</b>
Walking for pleasure or exercise	55.3	534,983
Hiking	36.5	353,108
OHV riding	18.8	181,875
Jogging or running	15.6	150,917
Tour/regular bike riding	15.6	150,917
ATV riding	10.4	100,612
Mountain bike riding	10.2	98,677
Horseback riding	6.4	61,915
Rafting	5.6	54,175
Backpacking	5.2	50,306
Dirt bike riding	4.4	42,566
Kayaking	3.6	34,827
Canoeing	2.8	27,088
Snowshoeing	2.6	25,153
Cross country skiing	2.0	19,348
Snowmobile riding	1.8	17,414

*Table 3. Percent of male and female respondents that participated in trail activity*

<b>TRAIL ACTIVITY</b>	<b>MALE</b>	<b>FEMALE</b>
Walking for pleasure or exercise	48.2	51.1
Hiking	53.3	46.2
OHV riding	58.5	40.4
Jogging or running	62.8	35.9
Tour/Regular bike riding	53.8	43.6
ATV riding	51.9	46.2
Mountain bike riding	64.7	31.4
Horseback riding	31.3	68.8
Rafting	60.7	39.3
Backpacking	69.2	30.8
Dirt bike riding	54.5	40.9
Kayaking	66.7	33.3
Canoeing	57.1	42.9
Snowshoeing	61.5	38.5
Cross country skiing	70.0	30.0
Snowmobile riding	33.3	66.7

### ***How frequently do Nevada citizens participate in trail activities?***

Trail activity participants were asked how many days in the twelve (12) months previous to the mail questionnaire they engaged in trail activities. Table 4 shows the average number of participation days per year by trail activity. The trail activities with the most frequent participation are walking for pleasure or exercise (69.3 days), jogging (58.2 days) and horseback riding (33.3 days). The total number of annual participation days in Nevada for all trail activities is 78,991,625.

*Table 4. Average number of participation days per year by trail activity*

<b>TRAIL ACTIVITY</b>	<b>DAYS</b>	<b>ANNUAL PARTICIPATION DAYS</b>
Walking for pleasure or exercise	69.3	37,074,322
Jogging or running	58.2	20,550,886
Horseback riding	33.3	6,056,438
Tour/Regular bike riding	29.5	4,452,052
Dirt bike riding	23.9	3,606,916
Snowmobile riding	19.9	2,002,179
ATV riding	18.9	1,864,995
Mountain bike riding	17.7	1,095,896
OHV riding	13.1	709,693
Hiking	11.5	578,519
Backpacking	7.9	336,271
Cross country skiing	7.3	254,237
Kayaking	6.0	162,528
Snowshoeing	5.3	133,311
Canoeing	3.7	71,588
Rafting	2.4	41,794
	<b><i>TOTAL</i></b>	<b>78,991,625</b>

### *How far do people travel when they engage in a trail activity?*

Participants in each activity were asked how many miles they traveled on a typical trail outing. Table 5 shows the average number of miles traveled by trail activity. Survey respondents that participated in a motorized activity reported higher numbers of miles traveled, with averages between 35.81 miles for OHV riding, to 22.78 miles for ATV riding.

*Table 5. Average number of miles traveled during typical outing*

<b>TRAIL ACTIVITY</b>	<b>MILES</b>
OHV riding	35.81
Snowmobile riding	31.89
Dirt bike riding	29.60
ATV riding	22.78
Rafting	11.04
Tour/Regular bike riding	10.66
Mountain bike riding	9.30
Horseback riding	8.66
Cross country skiing	7.78
Backpacking	7.58
Canoeing	5.92
Kayaking	5.14
Hiking	4.87
Snowshoeing	3.62
Jogging or running	2.86
Walking for pleasure or exercise	2.76

### ***What is a typical party size for trail activities?***

Survey respondents were asked how many people were in their party on their last outing. Table 6 presents the average party size for each trail activity. Snowmobile riding, canoeing and rafting participants reported an average party size over eight people.

*Table 6. Average party size reported by trail activity*

<b>ACTIVITY</b>	<b>AVERAGE PARTY SIZE</b>
Snowmobile riding	8.94
Canoeing	8.79
Rafting	8.21
Dirt bike riding	4.18
ATV riding	4.16
Horseback riding	4.00
Kayaking	4.00
Snowshoeing	3.69
OHV riding	3.38
Cross country skiing	3.33
Hiking	3.25
Backpacking	2.85
Walking for pleasure or exercise	2.51
Mountain bike riding	2.22
Regular bike riding	2.18
Jogging or running	2.10

### ***How many OHVs, ATVs, snowmobiles and dirt bikes are in Nevada?***

Survey respondents that participated in motorized trail activities were asked to determine the number of Off Highway Vehicles (OHV), All Terrain Vehicles (ATV), snowmobiles and dirt bikes owned by members of the household that received the survey. Table 7 presents the estimated number of OHVs, ATVs, snowmobiles and dirt bikes in Nevada. The estimated total number of motorized vehicles used for trail activities in Nevada is 388,209.

*Table 7. Number of OHVs, ATVs, Snowmobiles and Dirt Bikes in Nevada*

<b>TYPE OF MOTORIZED VEHICLE</b>	<b>NUMBER PER 501 HOUSEHOLDS</b>	<b>EXPANSION FACTOR</b>	<b>TOTAL NUMBER</b>
Off Highway Vehicle (OHV)	121	0.2415	191,728
All Terrain Vehicle (ATV)	74	0.1477	117,255
Dirt Bike	28	0.0559	44,366
Snowmobile	22	0.0439	34,860
<b><i>TOTAL</i></b>	<b><i>245</i></b>		<b><i>388,209</i></b>

The estimated number of motorized vehicles was calculated by determining the number of motorized vehicles per household. The total number of motorized vehicles was divided by the number of valid responses (501) for an expansion factor. The expansion factor was then multiplied by the number of households in Nevada with at least one vehicle in 2003 (793,848) to determine the number of OHVs, ATVs, snowmobiles and dirt bikes in Nevada.

***How much money do trail users expend while participating in motorized activities?***

Survey respondents that participated in motorized trail activities were asked to determine the amount of money expended to participate in the activity the twelve (12) months previous to the mail questionnaire. Table 8 presents the expenditures for each category in dollars. New equipment purchases make up the majority of expenses for Nevada citizens that participated in motorized trail activities.

*Table 8. Expenditures by motorized trail activity in dollars*

<b>EXPENSE</b>	<b>AMOUNT IN DOLLARS</b>			
<b>CATEGORY</b>	<b>ATV</b>	<b>OHV</b>	<b>Snowmobile</b>	<b>Dirt Bike</b>
New Equipment	1,683	3,563	4,015	950
Lodging	425	252	233	0
Maintenance/Repairs	290	815 <sup>1</sup>	447	549
Insurance	254	703 <sup>1</sup>	425	202
Food and Beverages	184	175 <sup>1</sup>	170	241
Accessories	181	361	211	494
Gas	159 <sup>1</sup>	241 <sup>1</sup>	350	182
Eating in Restaurants	98	101	160	160
Permits	32	29	48	40
Club Membership	0	28	38	0
<i>TOTAL</i>	<i>3,306</i>	<i>6,268</i>	<i>6,097</i>	<i>1,868</i>

1. N>30



***Do Nevada citizens expect to participate in a trail activity in the future?***

Respondents were asked if they expected to participate in trail activities in the future. Table 9 shows the percent of respondents that expect to participate in a trail activity. The most popular trail activity is walking for pleasure or exercise, with 41.5% of respondents expecting to participate in the future.

*Table 9. Percent of respondents that expect to participate in trail activity in the future*

<b>ACTIVITY</b>	<b>PERCENT</b>
Walking for pleasure or exercise	41.5
Hiking	20.6
Horseback riding	16.4
Touring/Regular bike riding	14.8
Rafting	14.2
Running	13.0
Backpacking	10.8
Mountain bike riding	10.4
ATV riding	9.2
Canoeing	9.0
OHV riding	8.4
Kayaking	8.2
Snowmobile riding	6.6
Cross Country skiing	5.6
Snowshoeing	5.6
Dirt bike riding	4.6

### ***What factors inhibit participation in trail activities?***

Respondents were given the opportunity to indicate what factors inhibit their participation in trail activities. Lack of time was cited by 36.6% of respondents as the primary limiting factor (Table 10). Thirty-four percent (34.8%) indicated that there are no trails near their homes and 34.7% indicated that they do not know where trails are located.

*Table 10. Factors that limit participation in trail activities*

<b>LIMITING FACTOR</b>	<b>PERCENT</b>
Do not have time	36.3
No trails near my home	34.8
Do not know where trails are located	34.7
Personal health reasons	17.6
Do not enjoy trail activities	7.2
Trails area too crowded	2.6

### ***What are the opinions of Nevada citizens toward trail issues?***

The questionnaire contained fourteen (14) statements regarding trails issues. Respondents were asked how much they agree or disagree with each statement. These opinions are presented in Table 11. The higher the score, the more strongly the respondent agrees with the statement.

*Table 11. Mean responses of respondent's opinions toward trail related issues*

<b>STATEMENT</b>	<b>MEAN SCORE<sub>1</sub></b>
OHV users should stay on designated trails.	4.18
Trail users need to be informed about proper trail etiquette.	4.10
Roads and highways need to be made safe for bicyclists.	4.04
I need better information about existing trails	4.02
I would use a trail if one were located near my home.	3.88
Homebuilders should provide trails.	3.81
Nevada State Parks needs more trails.	3.66
We need more trails in the community where I live.	3.63
We need more trails outside the community where I live.	3.45
Public lands should be open to all types of trail activities.	3.33
OHV use should be allowed in Nevada State Parks.	3.01
The trails I am familiar with are too short.	2.72
I am satisfied with the number of trails in Nevada.	2.71
OHV users should be allowed to drive anywhere.	2.06

1. 5-Point Scale: 1=Strongly Disagree to 5=Strongly Agree

***Do Nevada citizens belong to trail or riding clubs?***

Respondents were asked if they belonged to a trail or riding club or organization. Ninety-three percent (93%) of respondents do not belong to a club or organization, with only six percent (6%) belonging to a trail or riding club or trail related organization (Table 12).

*Table 12. Percent of respondents that belong to a trail or riding club or trail related organization*

	<b>PERCENT</b>	<b>NUMBER OF RESIDENTS</b>
No	93.1	1,469,277
Yes	6.9	108,894

### ***Where do Nevada citizens get information about trails in Nevada?***

Respondents were asked where they get information about trails in Nevada. Table 13 shows the sources of information and the percent of respondents that cited using the source. Word of mouth is the most popular source of information about trails in Nevada, with over 46% of respondents citing it as a source. Over 20% of the respondents cited one or more other sources, including visitor information centers, magazines and newspapers, the Internet, brochures and trail guide books.

*Table 13. Percent of respondents that identified sources of information about trails in Nevada*

<b>SOURCE OF INFORMATION</b>	<b>PERCENT</b>
Word of mouth	46.7
Visitor information centers	27.9
Magazines/newspapers	23.4
Internet	23.4
Brochures	23.0
Trail guide books	20.2
State highway map	19.0
Contact US Forest Service	10.6
Sporting goods/outdoor stores	9.2
Contact Nevada State Parks	9.2
Contact Bureau of Land Management	7.8
Contact local Parks & Recreation departments	7.6
Contact National Park Service	7.6
Organized clubs/groups	5.4
Other	4.6
Toll free numbers	0.6

***How do the demographic characteristics of the survey respondents compare to the demographic characteristics of the Nevada population?***

Table 14 compares the demographic characteristics of those who returned the survey with all Nevada residents. Overall, the respondent's characteristics were similar to the general population.

*Table 14. Comparison of survey respondents with the general Nevada population, in percent*

VARIABLE		SURVEY RESPONDENTS	2000 NEVADA POPULATION
Sex	Male	45.3	50.9
	Female	53.9	49.1
Age	85 years and over	0.2	0.9
	75 to 84 years	2.6	3.5
	65 to 74 years	10.2	6.6
	60 to 64 years	7.8	4.3
	55 to 59 years	9.2	5.3
	45 to 54 years	18.0	13.5
	35 to 44 years	20.6	16.1
	25 to 34 years	17.8	15.3
	20 to 24 years	7.6	6.5
	16 to 19 years	4.0	6.4
Income	Less than \$10,000	1.8	7.2
	\$10,000 to \$14,999	5.3	5.2
	\$15,000 to \$24,999	9.1	12.3
	\$25,000 to \$34,999	13.1	13.1
	\$35,000 to \$44,999	17.5	18.1
	\$50,000 to \$74,999	23.9	21.7
	\$75,000 to \$99,999	11.5	11.1
	\$100,000 to \$149,000	12.4	7.4
	\$150,000 to \$199,999	2.2	1.8
	\$200,000 or more	3.3	2.1

## CONCLUDING NOTE

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Information gained from this sample can be generalized only to the larger population from which the sample was taken. A  $\pm 5\%$  margin of error was used to select the sample size, indicating that if 61.3% of respondents participated in a trail activity, we can feel comfortable that 56.3% to 66.3% of the population participated in a trail activity. A 95% confidence level was used, meaning that there is a 5% chance that the results will not lie within the specified margin of error. Taking the example above, there is a 5% chance that our interpretation is not correct, that 56.3% -66.8% of all respondents did not participate in a trail activity. We can say that we are 95% sure that our conclusions accurately reflect the total population.

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